REMARKS

Claims 3 and 16-27 are pending in this application. Each of these claims was rejected in the June 22, 2010 Office Action under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 7,314,741 to Tal et al. in view of the article by Rouse et al. entitled "Continuous Treatment Studies of Anaerobic Oxidation of Ammonium Using a Nonwoven Biomass Carrier" and the article by Tokitoh et al. entitled "Study on Nitrous Acidification Treatment with an Adhesion Immobilization Method" and further in view of the newly applied article by Hatozaki et al. entitled "NH_4-N removal property by SNAP method". For the foregoing reasons, Applicants respectfully traverse the rejection and submit that the application is in condition for allowance.

The Newly Applied Journal Article by Hatozaki is Not Prior Art

One of the references relied on in rejecting claims 3 and 16-27 is the article by Hatozaki entitled "NH_4-N removal property by SNAP method". This article was published in the Japanese Journal of Water Treatment Biology and has a publication date of October 15, 2004.

The subject application represents the national stage of PCT Application No. PCT/JP05/06181, filed on March 30, 2005. This filing date is less than one year after the publication date of the Hatozaki article, and thus Hatozaki does not constitute a statutory bar under 35 U.S.C. §102(b). Moreover, as is evidenced by the face of the published version of the subject application, Applicants have claimed priority under 35 U.S.C. §119 to Japanese Patent Application No. 2004-100414, which was filed on March 30, 2004. This filing date precedes the publication date of the Hatozaki article. Once this priority claim has been perfected, the Hatozaki article can no longer be considered applicable prior art under 35 U.S.C. §102(a). *See* MPEP § 706.02(b).

As explained in Section 706.02(b) of the MPEP, the filing date of the priority document is not perfected unless applicant has filed a certified priority document and an English language translation thereof if, like here, the priority document is not in English. Once these documents are on file, the Examiner then establishes whether the priority document satisfies the enablement and description requirements of 35 U.S.C. §112, first paragraph. A check of the USPTO's PAIR system confirms that a certified copy of this priority document was received by the USPTO on September 28, 2006. Included herewith is a certified English-language translation of this priority document. Applicants submit that the priority document satisfies the enablement and written description requirements of 35 U.S.C. §112, first paragraph. Thus, the subject application should be entitled to a priority date of at least as early as the March 30, 2004 filing of the Japanese priority document.

Because the subject application is entitled to a priority date that precedes the Hatozaki journal article, the Hatozaki article is not prior art with respect to this application and cannot be relied on in formulating a rejection of the subject claims.

The Claims are Patentable Over the Remaining References

Claims 3 and 16-27 stand rejected under 35 U.S.C. §103(a) for obviousness over Tal in view of Rouse and Tokitoh and further in view of Hatozaki. For the reasons explained above, Hatozaki is not an available prior art reference and its teachings cannot be used to obviate the claimed invention. As explained in Applicants' Amendment filed on May 11, 2010, claims 3 and 16-27 are patentable over the combination of Tal, Rouse and Tokitoh.

Tal is directed to a marine water filtration system that includes Planctomycetes capable of removing ammonia from the surrounding water by the anammox process. The filtration system can be made up of beads which contain the Planctomycetes on their surface. In Tal, the ammonia-oxidizing bacteria and the anammox bacteria are separated from one another, either on different parts of a common filter or on different filters altogether. Figure 2 of Tal (which is cited in the Office Action), shows a two stage filter arrangement where the first filter

operates under aerobic conditions to promote ammonia-oxidizing bacteria and the second filter operates under anaerobic conditions to induce the anammox process.

In this arrangement, Tal clearly separates ammonia-oxidizing bacteria and anamox bacteria to ensure the ammonia-oxidizing bacteria can operate in an aerobic environment while the anammox bacteria can operate in an anaerobic environment by using two zones (or tanks) operating at different oxygen concentrations. However, claim 3 of the pending application describes an arrangement where the bacterial sludge including autotrophic anammox bacteria are present within the bacterial sludge including autotrophic ammonia-oxidizing bacteria. The arrangement of the bacterial sludge is further defined in claim 3 as a core-sheath arrangement. This arrangement of the bacterial sludge is clearly different from in Tal.

Rouse and Tokitoh do not cure the above deficiencies of Tal. Tokitoh is limited to use of nitrification bacteria alone and Rouse uses anammox bacteria alone. Thus, these references would not suggest modifying Tal to create a core-sheath arrangement of the bacteria. Instead, the Hatozaki article was cited for allegedly teaching the use of a core-sheath arrangement. However, the teachings of Hatozaki cannot be relied upon due to the priority date of the subject application. Moreover, modifying Tal so that the anammox bacteria are present within the bacterial sludge including autotrophic ammonia-oxidizing bacteria so that the complex bacterial sludge has a core-sheath structure would be wholly inconsistent with Tal's teachings of separating the annamox bacteria and ammonia-oxidizing bacteria into different zones with controlled oxygen content in each.

Therefore, claims 3 and 16-27 are patentable over the cited art and the rejection of these claims under 35 U.S.C. § 103(a) for obviousness should be reconsidered and withdrawn.

CONCLUSION

For the foregoing reasons, Applicants submit that the pending claims are patentable over the cited art of record and are in condition for allowance. Accordingly, reconsideration of the outstanding rejections and allowance of pending claims 3 and 16-27 are respectfully requested.

Respectfully submitted,

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